DOCUMENT RESUME

ED 355 221 SP 034 377

AUTHOR Sudzina, Mary R.; Douvre, Sherrie Shugarman
TITLE Using Cooperative Learning To Teach "At Risk" Students.
PUB DATE Feb 93
NOTE 19p.; Paper presented at the Annual Meeting of the Association of Teacher Educators (73rd, Los Angeles, CA, February 13-17, 1993).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; *Classroom Techniques; *Cooperative Learning; *Educational Benefits; *Educational Strategies; Education Majors; Elementary Secondary Education; Grouping (Instructional Purposes); *Group Structure; Higher Education; *High Risk Students; Preservice Teacher Education; Social Development; Teacher Education Curriculum; Teacher Educators

ABSTRACT

Cooperative learning emphasizes collaboration over competition and celebrates individual and group talents, cultures, and ideas. This paper presents a research-based overview of the academic advantages accruing to at-risk students involved in cooperative learning groups, suggests how teacher educators can equip preservice teachers with cooperative learning interventions that facilitate teaching at risk populations, and provides guidelines that illustrate how successfully to integrate diverse students into cooperative learning groups. Suggestions are given for structuring cooperative learning experiences to ensure that constructive and productive work is completed by each individual as well as by the group, simultaneously promoting group interdependence and individual accountability among students. Preservice teachers' initial perceptions and uncertainties about their participation in a cooperative learning course project are discussed and recommendations for overcoming potential snags and difficulties in preservice implementation are suggested. Comparisons between cooperative and traditional learning groups and key elements of cooperative learning are presented in tabular form. (Contains 26 references.) (LL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED355221

ATE
A Celebration of Diversity in Teacher Education

Using Cooperative Learning to Teach "At Risk" Students

Mary R. Sudzina
Assistant Professor of Teacher Education
Department of Teacher Education
The University of Dayton
Dayton, Ohio 45469-0525
(513) 229-3389

Sherrie Shugarman Douvre
Associate Professor of Teacher Education
Department of Teacher Education
The University of Dayton
Dayton, Ohio 45469-0525
(513) 229-3323

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
M. Sudzina
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Paper presented at the annual meeting of the
Association of Teacher Educators
February 13-17, 1993
Los Angeles, California

SP034377

BEST COPY AVAILABLE

Using Cooperative Learning To Teach "At Risk" Students

Mary R. Sudzina & Sherrie Shugarman Douvre
The University of Dayton

Abstract

This paper presents a brief research-based overview of the advantages accruing to students at risk involved in cooperative learning groups. Specifically, what are the academic advantages and why do they occur more frequently when at risk students are grouped cooperatively rather than individualistically or competitively? If students increase their learning when they are grouped cooperatively, how does this increased learning occur? Distinctions are made between cooperative learning and merely placing students in groups and how these differences are responsible for improved student comprehension and retention.

A second objective of this paper is to present guidelines that illustrate how to successfully integrate diverse students into cooperative learning groups. Specifically, how to structure cooperative learning groups that simultaneously promote individual accountability and group interdependence among students. Suggestions are given for how to structure these experiences to ensure that constructive and productive work is completed by each individual as well as the group.

Finally, this research offers suggestions for teaching and implementing "hands on" cooperative learning instruction in teacher preparation programs. Preservice teachers' initial perceptions and uncertainties about their participation in a cooperative learning course project are discussed and recommendations for overcoming potential snags and difficulties in preservice implementation are suggested.

Using Cooperative Learning To Teach "At Risk" Students

Mary R. Sudzina & Sherrie Shugarman Douvre
The University of Dayton

Introduction

The purpose of this paper is to suggest how teacher educators can equip preservice teachers with cooperative learning interventions that facilitate teaching "at risk" populations. Specifically, the paper will address how to build individual accountability, group interdependence, and social skills into lessons that will enhance the academic and social skill achievement of at risk students. Additionally, preservice teachers' initial frustrations and overall perceptions of using cooperative learning will be discussed.

Cooperative learning provides an excellent research-based solution for addressing the needs of diverse students in today's classrooms. Emphasizing collaboration over competition, cooperative learning celebrates individual and group talents, cultures, and ideas. It is a nurturing and inclusive learning strategy that is highly effective with "at risk" students and multicultural populations.

Students "At Risk" and Cooperative Learning: Literature Review

One way to conceptualize at risk students is to make an analogy to health care insurance. "Risk" in terms of health care insurance denotes the danger or likelihood of loss to the company. Similarly, students are considered "at risk" in relation to the danger or likelihood of school failure rather than success. Risk factors of students unlikely to graduate from high school include: low achievement, grade level retention, behavior problems, poor attendance, low socioeconomic status, and attendance at schools with high numbers of poor students (Slavin, 1989). These factors, however, focus on the environmental milieu and outcomes of being at risk rather than the core problems of school failure and low achievement (Vacca & Padak, 1990).

Perhaps we are asking the wrong question. Instead of asking, "What is wrong with at risk students?", it might be more beneficial to ask, "What happens in schools that allow students to stay at risk?" (Macchiarola, 1988). Shifting the focus of the question allows educators to take a closer look at the environmental factors that promote student disengagement and academic vulnerability. While there are no simple solutions to this question, one underutilized response is to use cooperative learning with at risk students.

Cooperative learning can enable teachers to concentrate on the student risk factors that can be influenced. Although teachers have little or no control over their students' past educational experiences, socioeconomic status, or their district's financial resources, they can influence three problems frequently associated with at risk learners: "learned helplessness," limited student strategy repertoires, and student avoidance of and alienation from literacy tasks.

According to Thomas (1979), "learned helplessness" is manifested by students who fail to participate and interact in classroom life; such students perceive themselves as having little control over their school achievement and unable to overcome failure. An important characteristic of students' confidence and competence in school is the degree of control they believe they can exert over their environment (Bandura, 1986). At risk students who believe they have little control over their environment may feel incompetent, helpless, and/or passive. This can lead to negative student affect such as nonparticipation, excuses, and cheating (Stipek & Weisz, 1981). Cooperative learning can help counter these negative feelings by providing opportunities for students to benefit by talking with other group members (Leechor, 1988), increasing interaction, a strong predictor of student learning (Cohen, Lotan & Leechor, 1989). Metacognitive exchanges among peers occur as content and process are discussed: student anxiety is reduced, attention becomes directed, and motivational support is provided.

Students at risk frequently have limited strategy repertoires; that is, they possess few strategies for facing new or difficult learning tasks, especially literacy tasks, leading them to repeatedly struggle unsuccessfully in school with the same few strategies. Bower (1990) found that low achieving students whose teachers involved them in multi-ability tasks in which students cooperatively participated in interpreting political cartoons, acting out the Sacco & Venzetti trial or staging a multi-media production on the role of women,

significantly improved their performance on history tests compared to those students who merely discussed answers to questions from linguistic primary source materials. According to Cohen (1990), students achieving below grade level will demonstrate gains on standardized achievement tests if they cooperatively give and receive help from peers on instrinsically engaging learning tasks that incorporate basic skills.

Classroom research has repeatedly demonstrated that students achieve greater understanding and retention of learned material when it is reviewed, summarized, discussed, and communicated to others. Cooperative learning approaches have consistently produced learning outcomes superior to those obtained through traditional approaches, no doubt, due in part to the power of the peer group.

Cooperative learning motivates students to become more active and involved participants in the learning process. This greater involvement occurs in at least two ways. First, students may be motivated to expend more effort if they know their work will be scrutinized by peers, and, second, students learn course material in greater depth if they are involved in helping teach it to peers. Finally, teachers who scored high on measures of understanding cooperative learning theory were found more able to delegate authority to cooperative groups and avoided telling groups what to do and how to do it (Lotan, 1985). Thus, a reasonable consequence is that students at risk could eventually begin to exert more control over their own learning as they gradually become more self-directed and self-motivated as a result of being with teachers able to implement cooperative learning theory into practice.

Applying Cooperative Learning Strategies to "At Risk" Students

Cooperative learning groups differ from traditional learning groups in several ways (see Table 1). Components that distinguish cooperative learning from other small group procedures (Johnson & Johnson, 1984; Kagan, 1989) include positive interdependence, individual accountability, heterogeneous teams, social skills, and group processing (see Table 2).

Positive interdependence occurs when students believe that the success of every team member is not possible unless each member contributes. A gain for one student is associated with gains for other students; essentially all team members contribute to each other's learning. Teachers can structure positive

Table 1

Comparison Between Cooperative and Traditional Learning Groups

Cooperative Learning Groups	Traditional Learning Groups
Positive interdependence	No interdependence
Individual accountability	No individual accountability
Heterogeneous	Homogeneous
Shared leadership	One appointed leader
Shared responsibility for each other	Responsibility only for self
Task and maintenance emphasized	Only task emphasized
Social skills directly taught	Social skills assumed and ignored
Teacher observes and intervenes	Teacher ignores group functioning
Group process their effectiveness	No group processing

(Johnson & Johnson, 1984)

Table 2

Key Elements of Cooperative Learning

1. **Team Formation**
2. **Positive Interdependence**
3. **Individual Accountability**
4. **Social Skills**
5. **Processing Time**
6. **Structuring Structure**

(Kagan, 1989)

interdependence by establishing: (a) shared goals, such as achieving consensus on a problem's answer or solution, (b) shared rewards, such as earning team grades based on a composite of each team member's score or on one team member's paper chosen at random to represent the team score, (c) cooperative group roles in which team members serve as discussion facilitators, scribes, readers, checkers, paraphrasers, spokespersons, or noise monitors, and (d) tasks which are divided into sections in which the entire task can not be finished unless all team members contribute their completed section.

Individual accountability, a second component, occurs when tasks and activities are assigned to insure that each team member is accountable to their group for task completion and that each member individually contributes to the team score. Teachers can build individual accountability into tasks by using grading systems that reward students for assisting each other or working together. Participation points may be factored in as part of a final grade. Making students individually accountable tends to reduce "hitch hikers" or free riders because evaluation is based on individual products. Teachers can also promote individual accountability by (a) asking students to first complete work or a task before bringing it to the group, (b) requiring everyone to write and then certify the correctness of each of the group's papers before the teacher randomly chooses one to grade, and (c) randomly choosing one student to be orally quizzed over material studied by the group.

Heterogeneous grouping, a third component, refers to composing groups as heterogeneously as possible with regard to academic achievement, gender, ethnicity, learning style, ability/disability, and personality. Heterogeneous groups promote elaborated thinking, progressively refined explanations, and continuous opportunities for adaptability as students gradually develop feelings of mutual concern.

Social skills, a fourth component, refers to cooperative skills that are directly taught to instruct students how to work together. Specifically, attention is focused on skills that teach students how to cooperatively interact and mutually respect each other. Examples of social skills include learning how to initiate and criticize an idea without criticizing the person, being able to explain , clarify, or paraphrase the work of others, and encouraging the participation of all group members.

Using cooperative learning groups effectively takes time because students who have not been taught cooperative skills are frequently not

productive in groups and their interactions may be unpleasant. In contrast, students who have learned cooperative skills and are members of truly heterogeneous cooperative learning groups that are positively interdependent and individualistically accountable have little trouble staying on task. These students care about one another and turn out high quality group products.

At risk students can become more successful learners as a result of direct teaching and cooperative instructional techniques. For example, by focusing cooperative learning groups on increasing their strategy repertoires, all learners can benefit. One strategy rarely used with at risk students, yet easily modeled and taught, is activating prior knowledge. By focusing on what is already known about a topic, students can set purposes for learning and prepare themselves to comprehend and assimilate new material on a topic.

Feelings of learned helplessness and lack of control can be alleviated when students at risk are taught metacognitive strategies for analyzing and planning for a learning task. This would also include direct instruction in the kinds of strategies that can be used to get back on track after encountering obstacles during learning. For many students, this means developing the awareness that learning tasks are supposed to make sense, be meaningful, and that particular learning strategies can be matched to particular contexts and demands. An important message to convey to students is that all group members can successfully learn because a critical determinant of their competence is the use of strategies that have already been taught.

Training Preservice Teachers in Cooperative Learning

Preservice teachers who have been taught through traditional instructional methods found cooperative learning to be an attractive method to use with their future students, but one that they were reluctant to embrace and use in their own preservice course work (Sudzina, 1992). As these preservice teachers were already successful learners, they didn't see the need to "try out" a new method of learning. This initial resistance appears to be related to their previous experiences in traditional learning groups, where group interactions tended to be mixed or unsatisfactory. The following excerpts are taken from preservice teachers' initial written responses to cooperative learning:

I have always hated group work of any form. When I heard we were going to do this project, I groaned and said, "Oh great." I thought the idea rather dull and, all in all, I was pretty pessimistic about it.

My initial reaction to the task was, "Oh no, another group project. I'll be impossible to find time to meet with each other and a hassle. Why can't she just let us do our own thing instead of throwing us into groups like we were in elementary school? I think we're competent to work by ourselves; why do we have to play fun and games?"

I wasn't a big fan of group projects. I usually end up doing all the work or forced into doing "the dirty work" (i.e. the hardest).

My initial reactions to my cooperative learning experience in this class were that I was unsure of what we needed to accomplish and how we were supposed to go about making our tapes. I wasn't very excited about the idea at first, and I felt that I didn't have much to contribute.

Although the research on the success of cooperative learning is compelling, past practices have a strong influence on the methods that beginning teachers use; most elementary and secondary teachers teach as they were taught (Kennedy, 1991). Bouas (in press) found that student teachers did not use cooperative learning extensively because they felt unsure of how to successfully implement this model of instruction. The student teachers in the Bouas study felt "more comfortable" using a teacher centered approach because that was the method of instruction which with they were most familiar.

In order for significant and worthwhile change to occur in teaching practices, Richardson (1990) suggests that teachers must reflect on what they already know and value about teaching, possess the practical knowledge to make changes, and have an awareness of research related to new teaching methods or models. Preservice teachers will need to be immersed in cooperative learning activities in a strong, compelling manner is they are to break the cycle of reliance on traditional methods and learn to use cooperative learning with their students (Bouas, 1992).

One suggestion would be to use an experience-based approach to cooperative learning in preservice preparation. This approach is based on the assumption that preservice teachers will be more likely to use cooperative learning in their future classrooms if they personally have experienced the model. The following five procedures, suggested by Millis (1992), have been

adapted for training preservice teachers. Each procedure will be listed separately, followed by a specific preservice training suggestion.

1. Clearly specify the objectives for the lesson.

Assign preservice teachers tasks that pair cooperative learning procedures with specific group outcomes such as writing and producing an audiotape of professional vocabulary (Sudzina, in press), solving a multicultural case study dilemma (Sudzina, 1993), or peer tutoring to increase conceptual understanding and achievement test scores (Channer-Dugan, 1992). Give written guidelines to aid preservice teachers in task planning and implementation. Specify experience in using cooperative learning as one of the learning objectives.

2. Make decisions about placing students in learning groups before the lesson is taught.

Although most preservice groups tend to be fairly homogeneous, caution must nevertheless be taken to insure that groups are as diverse as possible. Mix groups with higher and lower achievers, verbal and non-verbal students, male and females, elementary and secondary majors, students with differing areas of concentration, and ethnic backgrounds. Try not to put best friends or house mates together; if you are not sure of student relationships, ask. Group sizes can vary, but are usually from three to six students, depending on class size and task complexity.

3. Clearly explain the task, the cooperative structure, and the social and relationship skills needed for the learning activity.

Distribute chapters from Johnson, Johnson, Holubec, and Roy's *Circles of Learning* (1988) to preservice teachers. Analyze and discuss the roles and responsibilities of the teacher as facilitator and the student as small group participant. Compare and contrast the differences between cooperative and traditional learning groups (see Table 1). Review research and applications to multicultural, at risk, and diverse school populations (Gollnick & Chinn, 1990; McCutcheon, 1993). Model solving a case study dilemma through cooperative learning, with preservice participation, in class. Review the components of cooperative learning. Reiterate class assignment.

4. Monitor the effectiveness of the cooperative learning groups and intervene to provide task (i.e. answering questions about the assignment) and maintenance (i.e. teaching social and relationship skills such as paraphrasing, respectful listening, consensus seeking, etc.) assistance.

Groups can get off to a rocky start, especially if they fall back into the old pattern of traditional group work. Plan to set aside class time to facilitate cooperative learning groups and provide feedback, task clarification and reinforcement as necessary. A caution: cooperative learning takes time. Taking short cuts may short circuit the effectiveness of the process.

5. Evaluate students' achievement and help students discuss how well they collaborated with each other.

Use peer review to judge overall quality, creativity, and match with task objectives. Compare the kinds of learning outcomes associated with cooperative learning tasks compared to kinds of outcomes associated with individualized learning tasks. Discuss preservice reactions and perceptions to the cooperative learning process. Ask the following questions: What are the benefits? What are the difficulties? What would you do differently or the same next time? What did you learn that you didn't expect? How might cooperative learning be applied in other courses? How might cooperative learning be applied to your content area? Do you intend to use cooperative learning in your future classrooms? Why or why not? Have your perceptions about cooperative learning changed?

The last step, perhaps, is the most beneficial in preparing preservice teachers to use cooperative learning in their future classrooms. Unless teachers in training have the opportunity to reflect on their initial uncertainties, process what they have learned, and acquire the confidence and conviction to use cooperative learning again, it may not become part of their instructional repertoires. The following are excerpts from preservice teachers' written responses after a cooperative learning intervention:

> I believe now that cooperative learning can be extremely beneficial. It seems to go along with the cliche that "Two heads are better than one." So many new and fresh ideas can surface when many individuals work together.

This project was wonderful. For the first time I learned from others!! I think everyone benefitted from it too. As long as everyone does her part things worked out fine. I'm just afraid of what will happen if some do not pull their share of the load. Fortunately, our class was terrific.

The cooperative learning we did was enjoyable and I did receive satisfaction from the progress of the group. I think that my reaction now to cooperative learning is based on the method that it is approached, now that I know what to expect (the way it "should" be done).

I now think that it [cooperative learning] was a great idea. I still prefer to work on my own...but I can see how it can benefit my classes and so now I plan to use it.

Making the tape became a lot more fun as we all "jumped in" and began to get creative. And I also felt that I could contribute more ideas once we knew what we were doing, and I enjoyed doing this project. It was a lot better doing it together than if it would have been an individual assignment.

Cooperative learning is beneficial both *academically* and *socially*. It helps students understand the material better by discussing among themselves (with their peers) on "their own terms." Socially cooperative learning benefits students by letting them experience working with others in a group setting. Thus, it cuts down on competition with other individuals - which in the end - only adds stress to a child's life.

Implications and Recommendations for Teacher Preparation

While the benefits of using cooperative learning for at risk populations appear to be abundantly clear, until teacher preparation programs directly address the needs of multicultural and diverse learners, it is unlikely that the two will be naturally linked, taught, and acted upon.

Two paradigm shifts need to occur. The first involves shifting some of the blame for continued poor school performance from the student to the environmental assumptions and conditions of traditional schooling that limit at risk students' success. The second requires coupling research and theory with hands on experience in promoting worthwhile change in teaching practices. Simply instructing preservice teachers about at risk populations (with which many preservice teachers are unfamiliar) and cooperative learning (with which many preservice teachers confuse with traditional group work) will not adequately prepare teachers for the 21st century.

There appears, then, to be a significant difference between instructing preservice teachers about cooperative learning as a *method of teaching* and the ease with which preservice teachers initially accept the experience of and benefit from cooperative learning strategies as a *method of learning.* Unless strong links are forged between knowledge of new methods and activities using those methods, it is unlikely that preservice teachers will make the necessary shift from thinking about instruction interventions to acting upon them in their future classrooms.

The use of cooperative learning, while a very powerful learning structure for processing information and fostering class participation, can be initially frustrating to some preservice teachers who prefer traditional teacher directed methods of instruction. Even after positive cooperative learning interventions, some preservice teachers may have reservations about using these strategies. This is to be anticipated. Some preservice teachers are not comfortable with facilitating group process and/or still prefer to work alone on tasks. In conjunction, Channer-Dugan (1992) cautions that cooperative learning may not not be a strategy that all teacher educators can model and facilitate successfully. Cooperative learning is successful in classrooms where teacher educators understand the theory and research behind cooperative learning, and possess positive attitudes and enthusiasm for the method. Cooperative learning is unsuccessful when basic tenants or components are violated, such as lack of homogeneous grouping or positive interdependence.

Summary and Conclusions

Matching the benefits of cooperative learning strategies to the needs of at risk learners sensitizes preservice teachers to the deficits of these reluctant learners and how they, through cooperative learning, can make a difference in at risk students' school success or failure.

Preservice teachers who experienced cooperative learning in their teacher preparation course work reported positive attitudes to this method of group learning. An overwhelming majority also expressed the confidence and desire to apply cooperative learning strategies in their future classrooms.

Integrating course content and cooperative learning in undergraduate teacher preparation course work can empower preservice teachers to more actively participate and take responsibility for their own learning. The ultimate goal of these learning initiatives is to enable preservice teachers to carry these

skills into their classrooms with them as novice teachers. It is doubtful that this will occur by osmosis; teacher educators and teacher preparation programs must consciously and thoughtfully plan for learning interventions that model "best practices" (Goodlad, 1990) and engage preservice teaching in reflecting and acting upon such practices to better meet the needs of *all* students in tomorrow's classrooms.

References

Bandura, A. (1986). From thought to action: Of personal agency. *New Zealand Journal of Psychology, 15*, 1-17.

Bouas, M. J. (1992, October). Cooperative learning: We need to model the model in preservice teacher education. Paper presented at the Mid-western Educational Research Association, Chicago.

Bouas, M. J. (in press). Preservice teachers and cooperative learning: Their attitudes toward, experiences with and knowledge about this teaching-learning strategy. (Doctoral dissertation, Southern Illinois University, 1992). *Dissertation Abstracts International.*

Bower, A. (1990). The effect of a multiple ability treatment on status and learning in the cooperative social studies classroom. Unpublished doctoral dissertation, Stanford University, CA.

Channer-Dugan, C. (1992, October). Cooperative learning and preservice education. Paper presented at the Mid-western Educational Research Association, Chicago.

Cohen, E.G. (1990). Teaching in the multicultural classroom: A model program in California. *McGill Journal of Education, 26*, 1-17.

Cohen, E. G., Lotan, R., & Leechor, C. (1989). Can classrooms learn? *Sociology of Education, 62*, 75-94.

Gollnick, D. M. & Chinn, P. C. (1990). *Multicultural education in a pluralistic society (3rd ed.)*. Columbus, OH: Merrill.

Goodlad, J. (1990). Better teachers for our nation's schools. *Phi Delta Kappan, 73*(3), 184-194.

Johnson D. W. & Johnson, R. T. (Eds.). (1984). *Structuring cooperative learning: The 1984 handbook of lesson plans for teachers*. Edina, MN: Interacting Book Company.

Johnson, D. W., Johnson, R. T., Holubec, E. J. & Roy, P. (1988). *Circles of learning (2nd ed.)*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kagan, S. (1989). *Cooperative learning: Resources for teachers*. San Juan Capistrano, CA: Resources for Teachers.

Kennedy, M. (1991). Policy issues in teacher education. *Phi Delta Kappan, 72*(9), 658-665.

Leechor, C. (1988). How high and low achieving students differentially benefit from working together in cooperative small groups. Unpublished doctoral dissertation, Stanford University, CA.

Lotan, R. (1985). Understanding the theories: Training teachers for implementation of complex instructional technology. Unpublished doctoral dissertation, Stanford University, CA.

Macchiarola, F. (1988). Values, standards, and climate in schools serving students at risk. *School success for students at risk: Analysis and recommendations of the Council of Chief State School Officers* (pp. 13-24). Orlando, FL: Harcourt Brace Jovanovitch.

McCutcheon, G. (1993). Diverse issues in school curricula: Overview and framework. In M. J. O'Hair & S. J. Odell (Eds.), *Diversity and teaching: Teacher education yearbook I* (pp. 237-268). Fort Worth, TX: Harcourt Brace Jovanovich.

Millis, B. (1992, October). Using cooperative small groups to promote active learning. Workshop presented to the University of Dayton faculty, OH.

Richardson, V. (1990). Significant and worthwhile change in teaching practice. *Educational Researcher, 19*(7), 10-18.

Slavin, R. (1989). Students at risk of school failure: The problem and its dimensions. In R. Slavin, N. Karweit & N. Madden (Eds.), *Effective programs for students at risk* (pp 1-20). Needham Heights, MA: Allyn & Bacon.

Stipek, D. & Weisz, J. (1981). Perceived personal control and academic achievement. *Review of Educational Research, 51*, 101-137.

Sudzina, M. (in press). Audiotapes: The overlooked technology in teacher education. *Teacher Education & Practice*.

Sudzina, M. (1993, February). Dealing with diversity issues in the classroom: A case study approach. Paper presented at the annual meeting of the Association of Teacher Educators, Los Angeles.

Sudzina, M. (1992, February). Integrating technology, problem solving and cooperative learning experiences in preservice teacher certification programs: A sophomore level educational psychology intervention. Paper presented at the annual meeting of the Association of Teacher Educators, Orlando, Florida.

Thomas, A. (1979). Learned helplessness and expectancy factors: Implications for research in learning disabilities. *Review of Educational Research, 49*, 208-221.

Vacca, R. & Padak, N. (1990). Who's at risk in reading? *Journal of Reading, 33*(7), 486-488.